when the lower 2-bit data of the pre-pit byte is the same as the reference pattern 00, the low bit is set to high level.

16. A pre-pit decoding circuit for receiving a pre-pit signal and a wobble signal and outputting a pulse signal and a new pre-pit signal, comprising:

a pulse generating unit for generating the pulse signal, wherein the pulse signal rises substantially at the same time as the wobble signal rises;

an extension unit for generating an extension signal which rises substantially at the same time as the pre-pit signal rises and falls substantially at the same time as the pulse signal falls; and

an AND-operation unit for generating the new pre-pit signal by doing an AND-operation on the extension signal and the pulse signal.

ABSTRACT OF THE DISCLOSURE

A pre-pit signal decoder includes a shift register, a pattern comparator, a counting unit, an in-sync signal generating unit and a protection unit. The register receives serial pre-pit bits and converts them into a parallel pre-pit byte. The comparator generates an odd sync bit, an even sync bit, a low bit, and a high bit according to the pre-pit byte and receives a disable signal to operate when the disable signal is not enabled. The counting unit generates a counting value, which marks oddness/evenness of frames of the pre-pit bits and sequence of wobble signals in the frames, according to the odd sync, even sync, low and high bits. The signal generating unit generates an in-sync signal according to the odd

sync, even sync, low, and high bits. The protection unit receives the counting value and the in-sync signal to thereby enable the disable signal at positions where the pre-pit bits impossibly exist according to the counting value. The decoder controls operations of the pattern comparator according to the disable signal of the protection unit so as to reduce the error rate.